

# Notice of Allowability

## Application No.

10/758,316

## Examiner

Craig A. Thompson

## Applicant(s)

LIU ET AL.

## Art Unit

2813

### -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to IDS of 3/19/2004.
2. ☒ The allowed claim(s) is/are 1-39.
3. ☒ The drawings filed on 15 January 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 20040319
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

**EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows: Reference characters corresponding to elements recited in the detailed description of the drawings and used in conjunction with the recitation of the same element or group of elements in the claims should be enclosed within parentheses so as to avoid confusion with other numbers or characters which may appear in the claims. See MPEP § 608.01(m). Accordingly:

- In claim 33, line 2: The reference "12" has been replaced with -- (12) --.
- In claim 33, line 4: The reference "30" has been replaced with -- (30) --.
- In claim 33, line 6: The reference "12" has been replaced with -- (12) --.
- In claim 34, line 1: The reference "30" has been replaced with -- (30) --.
- In claim 35, line 1: The reference "30" has been replaced with -- (30) --.
- In claim 36, line 1: The reference "32" has been replaced with -- (32) --.
- In claim 37, line 1: The reference "30" has been replaced with -- (30) --.
- In claim 38, line 1: The reference "30" has been replaced with -- (30) --.
- In claim 39, line 1: The reference "30" has been replaced with -- (30) --.

### REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: prior art of record does not describe or suggest applicants' invention set forth in claims 1-17, a method of fabricating word-line spacers wherein a substrate having an inchoate split-gate flash memory structured formed thereover is provided, a conductive layer is formed over the substrate and inchoate split-gate flash memory structure, a dual-thickness oxide layer is formed, and partially etched back to remove at least the oxide layer from over lower horizontal portions of the conductive layer, in the context of the recited process. Similarly, prior art of record does not describe or suggest the invention of claims 18-32, a method of fabricating word-line spacers wherein a polysilicon layer is formed over the substrate and the inchoate split-gate flash memory structure, and an oxide formed has two portions, in conjunction with a partial etch back, in the context of the recited process. Finally, prior art of record does not describe or suggest the split-gate flash memory structure of claims 33-39 wherein an inchoate split-gate flash memory structure has outer vertical surfaces, and word-line spacers are adjacent to the vertical surface where the word-line spacers are partially etched-back and have raised upper, outer sidewall portions extending above the inchoate split-gate slash memory structure.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Cited Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee (U.S. Patent No. 6,242,309) teaches a method for forming a split gate flash memory cell wherein an etching process forms spacers between the floating gate (abstract). Hsieh (U.S. Patent Publication US2004/0077144 A1) teaches a method for forming self-aligned split gate flash memory with L-shaped wordline spacers (abstract and title).

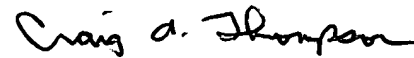
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### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Thompson whose telephone number is (571)272-1699. The examiner can normally be reached on Monday-Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on (571)272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Craig A. Thompson  
Primary Examiner  
Art Unit 2813

12 November 2004